TO: Kristie Warr

FROM: Rick Haaker, CHP, CIH

SUBJECT: Review of Las Conchas Fire Work Order 11-07023
(Chain of Custody No. 6-070411-123526-0004)

DATE: 7/17/2011

The data were reviewed for accuracy, completeness, and any apparent issues. During data review a qualifier "UB" was assigned if the activity result is less than five times the activity result of the method blank. A "UB" qualifier denotes that an analyte is non-detect due to lack of activity relative to a blank concentration. Unused filters from the same lot as the sample filters were used as the method blank. The analytes in Table 1 were detected in the method blank, and all samples are affected.

Table 1. Analytes detected or tentatively detected in the method blank and data qualifiers based on the blank.

BlanksWithDetectedOrEstimatedActivity	
Isotope	**Assigned Qualfier**
U-234	
U-238	
GROSS BETA	

Data without a UB qualifier was further reviewed.

A "U" was assigned to the Assigned Qualifier column when result was less than 50% of the MDA. In this case the analytical result was assigned to be one-half of the MDA in the "ValidatedResult" column. The validated result should be considered an upper bound estimate in this case.

A "J" was assigned if the result was between 0.5 of the MDA and the MDA. The validated result is the reported result. The validated result represents an estimated value in this case.

A "JH" or "JL" would be based on percent recovery (the "RadioPercentRec", "GravPercentRec" and the "LCSpercentR" columns of the Eberline Services report. Recoveries below 70% would result in a JL to denote the result is estimated with a low bias. Recoveries above 130% would result in assignment of a JH to denote that the result is estimated with a high bias.

Table 2 lists samples that exhibited percent recoveries outside of the acceptance range.

Table 2. Samples with recoveries outside of the acceptance range.

NonAcceptanceRecoveries			
Isotope	**ClientID**	**RadioPercentRec**	**Assigned Qualfier**
U-234	A008-110704-0710-1-T02	131.85	U
U-234	A009-110704-0630-1-T01	137.07	UB
U-234	A010-110704-0748-1-T01	146.63	UB
U-234	A012-110704-0821-1-T01	131.2	UB
U-234	A012-110704-0825-2-T01	142.35	UB
U-235	A008-110704-0710-1-T02	131.85	UB
U-235	A009-110704-0630-1-T01	137.07	UB
U-235	A010-110704-0748-1-T01	146.63	UB
U-235	A012-110704-0821-1-T01	131.2	JH
U-235	A012-110704-0825-2-T01	142.35	U
U-238	A008-110704-0710-1-T02	131.85	UB
U-238	A009-110704-0630-1-T01	137.07	UB
U-238	A010-110704-0748-1-T01	146.63	UB
U-238	A012-110704-0821-1-T01	131.2	UB
U-238	A012-110704-0825-2-T01	142.35	UB
AM-241	A001-110704-0943-1-701	46.75	U
AM-241	A012-110704-0821-1-T01	65.28	U
PU-238	A004-110704-0840-1-T01	60.13	U
PU-238	A001-110704-0943-1-701	53.51	U
PU-238	A002-110704-0850-1-T01	40.41	U
PU-238	A004-110704-0840-1-T01	67.22	JL
PU-238	A006-110704-0922-1-T01	48.35	U
PU-238	A008-110704-0710-1-T02	66.13	U
PU-239	A004-110704-0840-1-T01	60.13	U
PU-239	A001-110704-0943-1-701	53.51	U
PU-239	A002-110704-0850-1-T01	40.41	U
PU-239	A004-110704-0840-1-T01	67.22	U
PU-239	A006-110704-0922-1-T01	48.35	UB
PU-239	A008-110704-0710-1-T02	66.13	U

The assigned data qualifiers are found in column “AssignedQualifier”.

The effective air volume for the various analytes of the various air samples in cubic meters are provided in the column “AliquotNetEquiv” of the EDD.

Note that the blank results are in pCi/m^3. The volumes that Eberline Services assigned to the blanks for a given analyte are the average of the effective volumes for the samples in the sample set for that analyte.

Air volumes that were collected in this sample set were in the range of 518 to 613 cubic meters. There is no indication of whether the air volumes on the Chain of Custody represent the sample air volumes at standard temperature and pressure.

The period of time between collection of air samples and gross alpha/beta counting was about seven days, so those results are unlikely to be affected by the presence of radon daughters.

No discrepancies were found in the transcription of sample IDs or sample volumes from the chain of custody to the EDD.